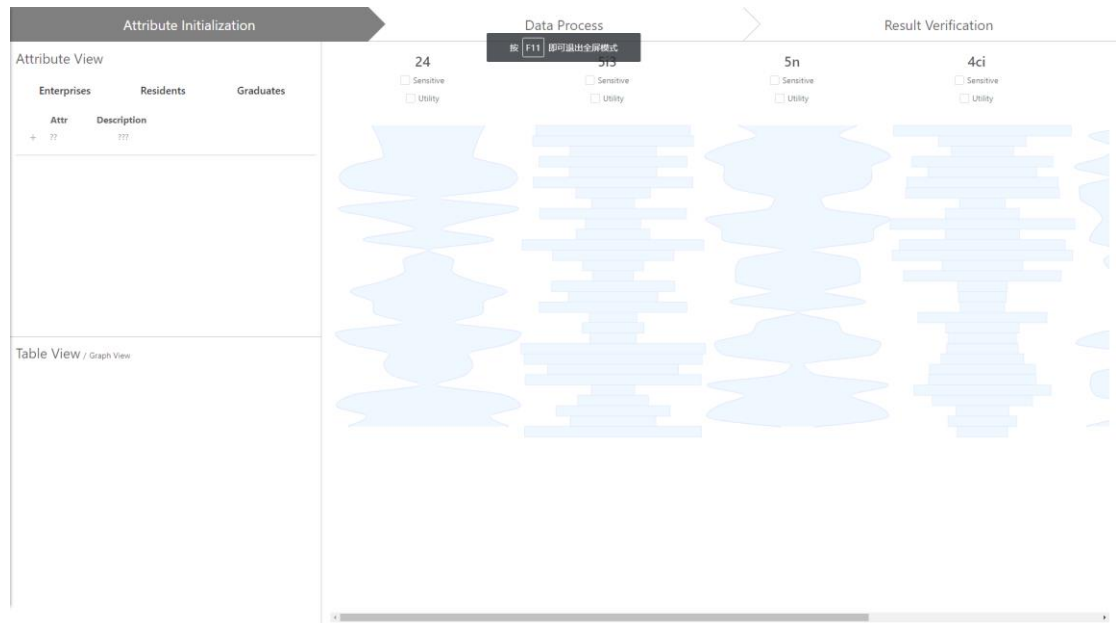


Weekly Report

1 Done

1.1 Project

- Code for front end. (with random data)

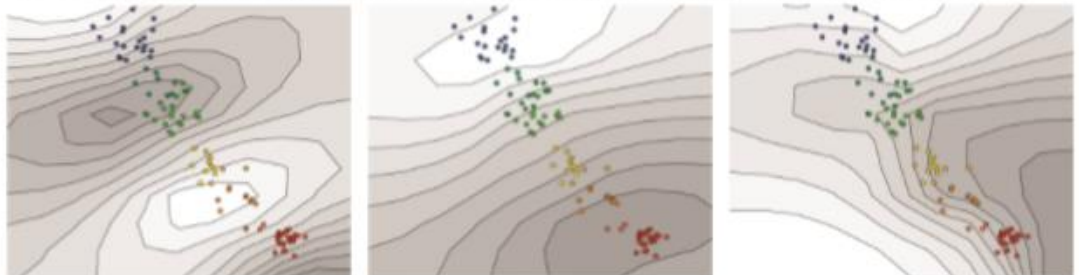


- Configuring the backend on my computer, so that I can keep coding in Davis.
- Invite Chris to help me in the new project.

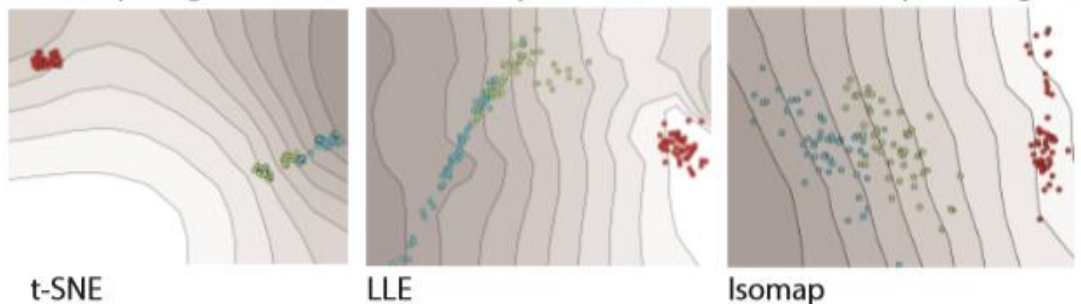
1.2 Paper Reading

- *DimReader: Axis lines that explain non-linear projections*

Ⓐ Comparing Dimensions within a Dataset (Coordinate axes from t-SNE)

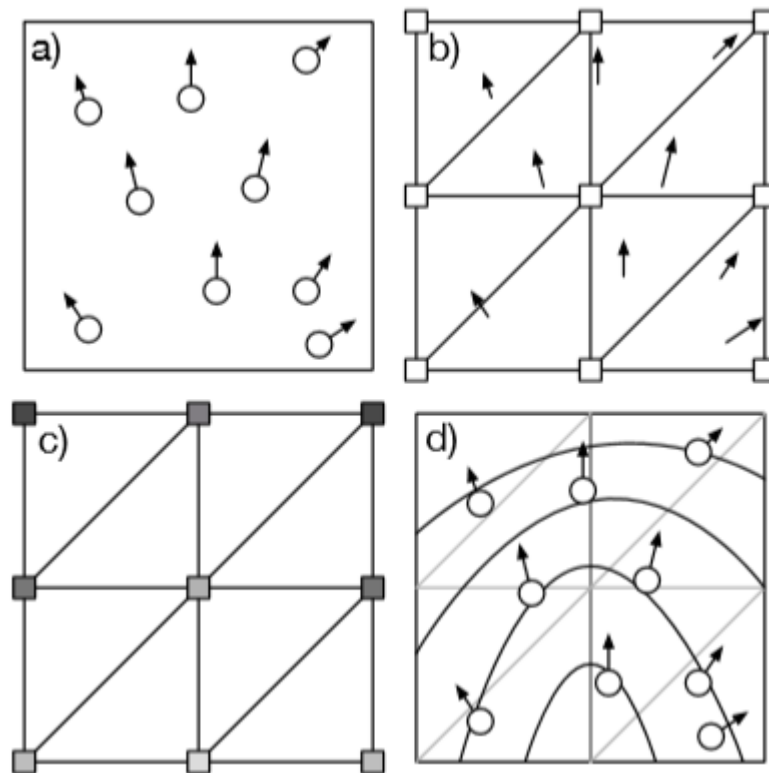


Ⓑ Comparing a Dimension Across Projections (Coordinate axes for petal length)



DimReader explains non-linear dimensionality reduction (NDR) methods by contour map. The process is:

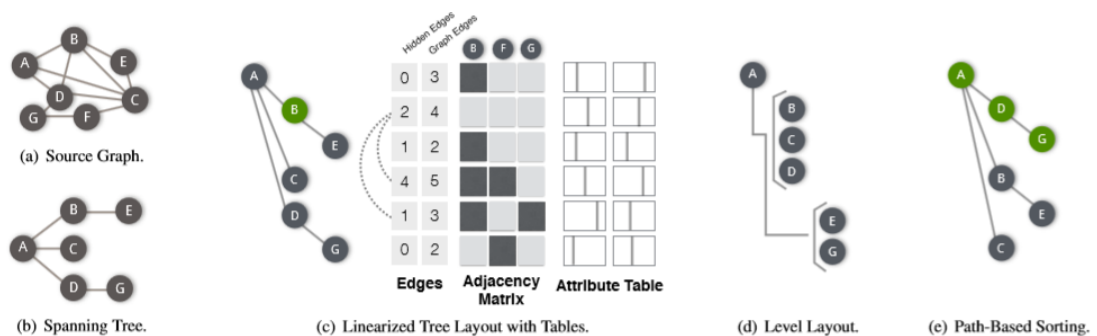
- 1) A user chooses a perturbation of interest, which defines an infinitesimal change for each data point (possibly in different directions).
- 2) The NDR method is executed many times using dual numbers, from which we obtain the perturbation vectors, one for each input point.
- 3) From the perturbation vectors, a scalar field whose gradient matches the perturbation vectors is computed.



- 4) The isolines of this scalar field, which are perpendicular to the gradient, are extracted using Marching Squares. They form the effective axes. This is a really interesting work, which employs intuitive representations in essential problems.

- *Juniper: A Tree+Table Approach to Multivariate Graph*

Visualization



This work visualize network, like co-author network by spanning tree. The

details can be found above.

- *Visualizing Ranges over Time on Mobile Phones: A Task-Based*

Crowdsourced Evaluation

1.3 Other

中期答辩；办理回国手续、整理报销材料；办理出国手续等。

2 Work hours

I was so sleepy due to time difference, so I was late in Wednesday. Nothing else changed.

3 To do

I will hand over all the materials next week and go home on Tuesday. I will arrive Davis on Sunday.